

## VIBRATIONAL CHARACTERIZATION OF CATALYTIC INTERMEDIATES IN A DUAL CRYOGENIC ION TRAP SPECTROMETER

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Decades of research on water oxidation catalysis has yielded much progress in making water splitting a viable option for alternative energy. However, precise molecular-level understanding of the catalytic mechanism remains elusive due to the difficulty of studying reaction intermediates by traditional methods. In this talk, vibrational characterization of a ruthenium water oxidation catalyst and catalytic intermediates will be presented. In particular, infrared spectra acquired using a recently developed approach that employs two cryogenic ion traps, which enable the isolation of the chemical species discussed here, will be the focus of this talk.